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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/740,465	12/22/2003	Jung Sang Back	0465-1062P	3623

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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

MOON, SEOKYUN

ART UNIT	PAPER NUMBER
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2629

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	01/04/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 01/04/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/740,465

Applicant(s)

BAEK ET AL.

Examiner

Seokyun Moon

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. The Applicants' claim for the benefit of a prior-filed application under 35 U.S.C. 119(a)-(d) has been acknowledged.

Drawings

2. The drawings are objected to because FIG. 3 of the Application has failed to indicate the unit of a time period of the signal SSP properly. The expression used to define the time period, " $\mu 50.3$ s" is not well defined. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office Action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 1-9, 15, and 21** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to **claims 1, 7, and 9**, the aspects of the invention disclosed in the claim 1, lines 5-6 and 8-9, "*having a short period*" and "*having a long period*" render the claim indefinite since the criteria of defining a period as a short period or a long period is not clearly defined and indicated in the claim.

As best understood by the Examiner, the above disclosed aspects of the invention in the claim 1 will be interpreted as "*a first period*" for the limitation disclosed in lines 5-6 and "*a second period having a period longer than the first period*" for the limitation disclosed in lines 8-9, for further examination purpose. Furthermore, the terms disclosed in the claims 7 and 9, "*the short period*" and "*the long period*" will be interpreted as "*the first period*" and "*the second period*" respectively, for further examination purpose.

As to **claim 7**, it is not clearly defined or indicated in the claim that which clock signal (between a main clock and a clock signal) disclosed in the claim 1 is referred to as "*the clock signal*". Appropriate correction is required.

As to **claims 15 and 21**, the term "about" renders the claim indefinite because it is unclear whether the limitation(s) following the term are part of the claimed invention.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. **Claims 7 and 10-21** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The term disclosed in the **claims 7, 10, and 16**, "*back porch of the clock signal*" is not shown in any drawing of the Application and is inconsistent with the information that the submitted drawings provide. According the figures 2 and 3, the back porch is defined within a period of the "Video Signal". Furthermore, there is no signal other than "*Video Signal*", defining the range of the back porch.

Therefore, for further examination purpose, the claim limitation, "*back porch of the clock signal*" will be interpreted as "*back porch of the video signal*", as best understood by the Examiner.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 1, 2, 4, 7-12, and 16-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al. (US 6,362,804, herein after "*Park*") and Iizuka (US 6,721,009), and further in view of AAPA (Applicants' Admitted Prior Art).

As to **claim 1**, Park teaches a driving method for displaying a normal mode signal in a wide mode liquid crystal display device, for displaying an analog video signal input to the wide mode LCD device as a normal mode [col. 1 line 26 – col. 2 line 5, emphasis on col. 2 lines 1-5], the method comprising:

outputting a source start pulse signal ("SP") [fig. 9];

latching pixel data for a black display ("BD") for a first period synchronized to the source start pulse signal ("SP") [fig. 9]; and

latching pixel data corresponding to a normal mode for a second period having a period longer than the first period (the period located between a first "BD" and a second "BD") [fig. 9], and outputting the latched pixel data [col. 4 lines 56-59].

Park does not teach the method of skipping data latch.

However, Iizuka teaches a driving method for a display comprising skipping data latch during a transition period of a video signal ("*discharge period for unnecessary signal*") [fig. 5].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Park's driving method to include discharge periods and transfer period in Park's blanking period, as taught by Iizuka, in order to reduce the drive frequency of the horizontal register for discharging unnecessary signal charges [col. 6 lines 26-47, emphasis on lines 40-43].

Park modified by Iizuka does not expressly disclose a main clock having a first period and a clock signal having a second period, which is longer than the first period, to be used for determining the periods for latching pixel data for a black display and for latching pixel data for an image display.

However, AAPA [Appl.: fig. 2] teaches clock signals to be used to determine or indicate the periods for latching pixel data for a black display and for latching pixel data for an image display.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Park to determine the periods for latching pixel data for a black display and an image display by using clock signals having different periods, as taught by AAPA, since it is well known in the art to use clock signals to synchronize the timings of supplying data signals.

As to **claim 2**, Park modified by Iizuka [Park: fig. 4] teaches that the source start pulse signal ("SP1") is outputted after a predetermined time period from a horizontal start pulse ("HCY").

As to **claim 4**, Park modified by Iizuka [Park: fig. 4] teaches that the source start pulse signal ("SP") is outputted after a certain time period from a rising edge of the horizontal start pulse ("HCY").

As to **claim 7**, Park [fig. 9] teaches the first period of the clock signal lasts from a start of the SSP signal ("SP") to an end of a back porch of the video signal ("CDA").

As to **claim 8**, Park modified by Iizuka [Park: fig. 4] teaches that at least one of the first and second skipping steps is performed by disabling an enable clock signal ("DRES").

As to **claim 9**, Park modified by Iizuka and AAPA teaches the long period of the clock signal corresponding to 50.3 μ s [Appl.: fig. 2].

As to **claim 10**, Park modified by Iizuka teaches a method for displaying a video signal in a display device [col. 1 line 26 – col. 2 line 5, emphasis on col. 2 lines 1-5], comprising:

generating a source start pulse signal ("SP1") [fig. 9];

latching pixel data for a black display from a start of the source start pulse signal ("SP1") to an end of a back porch of a video signal ("CDA") [fig. 9]; and

skipping latch of subsequent pixel data (lizuka: "*discharge period for unnecessary signal*") [lizuka: fig. 5] during a transition period of the video signal.

As to **claim 11**, Park modified by lizuka teaches latching subsequent pixel data during a high-level of the video signal (Park: the period located between a first "*BD*" and a second "*BD*") [Park: fig. 9 and col. 4 lines 56-59] and skipping latch of subsequent pixel data (lizuka: "*discharge period for unnecessary signal*") [lizuka: fig. 5] during a second transition period of the video signal (Park: the edge portion of the time period "*BD*").

As to **claim 12**, Park [Park: fig. 4] teaches the source start pulse signal ("*SP*") to be output after a predetermined time period from a horizontal start pulse ("*HCY*").

As to **claims 16 and 17**, Park modified by lizuka inherently teaches means for generating a source start pulse signal, means for latching pixel data for a black display, and means for skipping latch of subsequent pixel data since it is required for the modified Park to have such means to accomplish the method for displaying a video signal as discussed with respect to the rejection of claims 10 and 11.

As to **claim 18**, all of the claim limitations have already been discussed with respect to the rejection of claim 10.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seokyun Moon whose telephone number is (571) 272-5552. The examiner can normally be reached on Mon - Fri (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2629

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

December 20, 2006

S.M.

AMR A. AWAD
SUPERVISORY PATENT EXAMINER

A handwritten signature in black ink, appearing to read 'Amr A. Awad', with a long horizontal flourish extending to the right.